

4.2.A. 0601020701 (Clinch River).

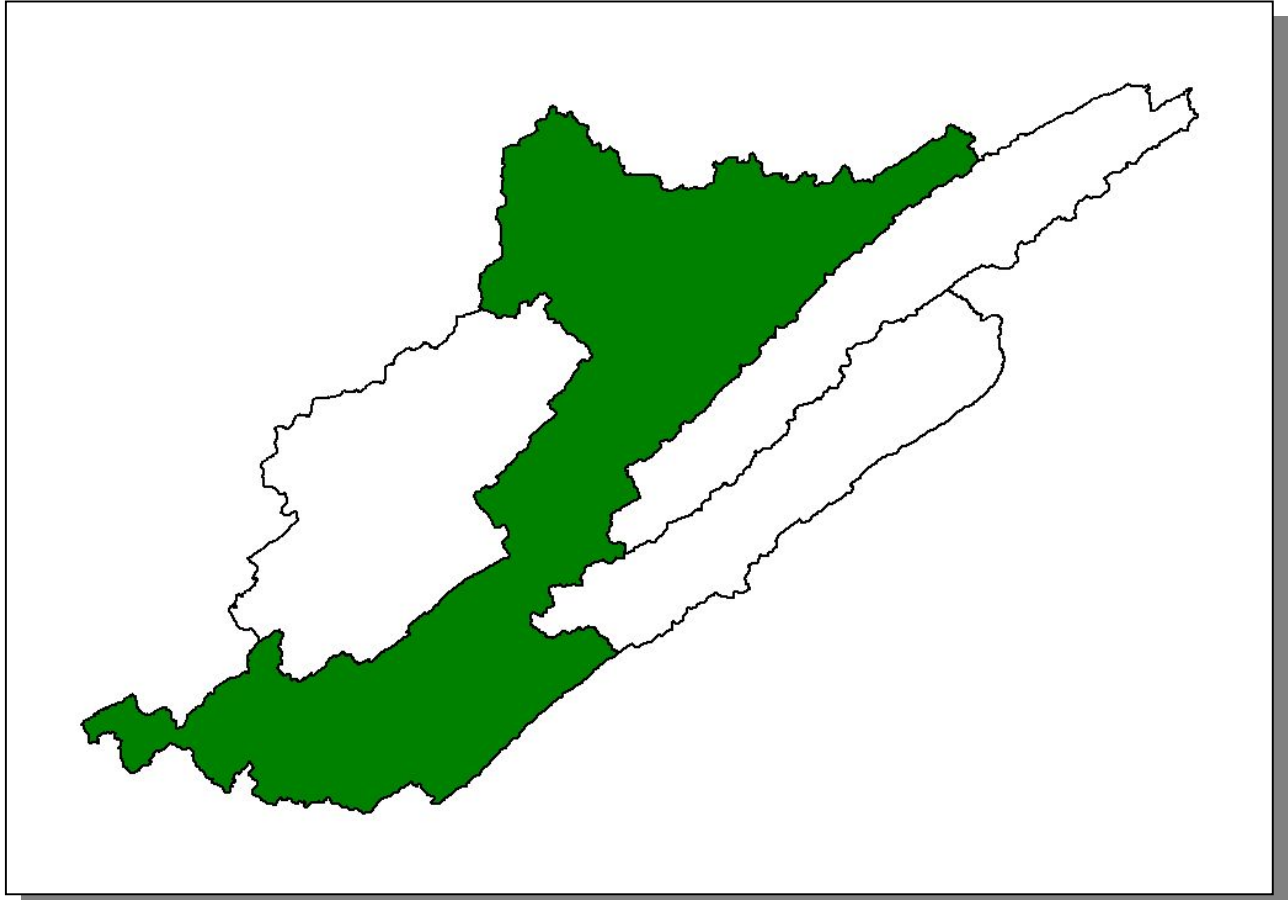


Figure 4-2. Location of Subwatershed 0601020701. All Lower Clinch River HUC-10 subwatershed boundaries are shown for reference.

4.2.A.i. General Description.

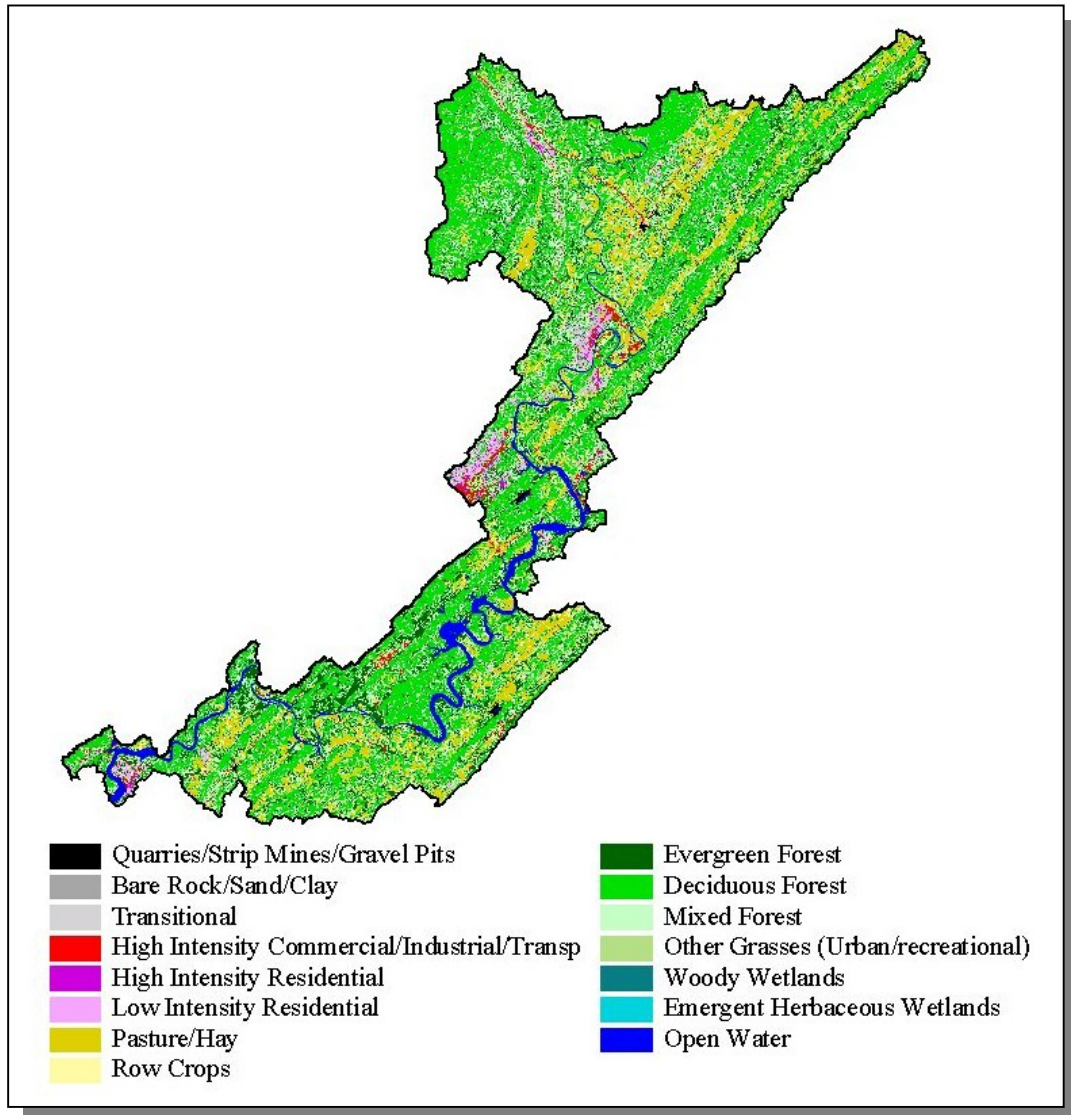


Figure 4-3. Illustration of Land Use Distribution in Subwatershed 0601020701.

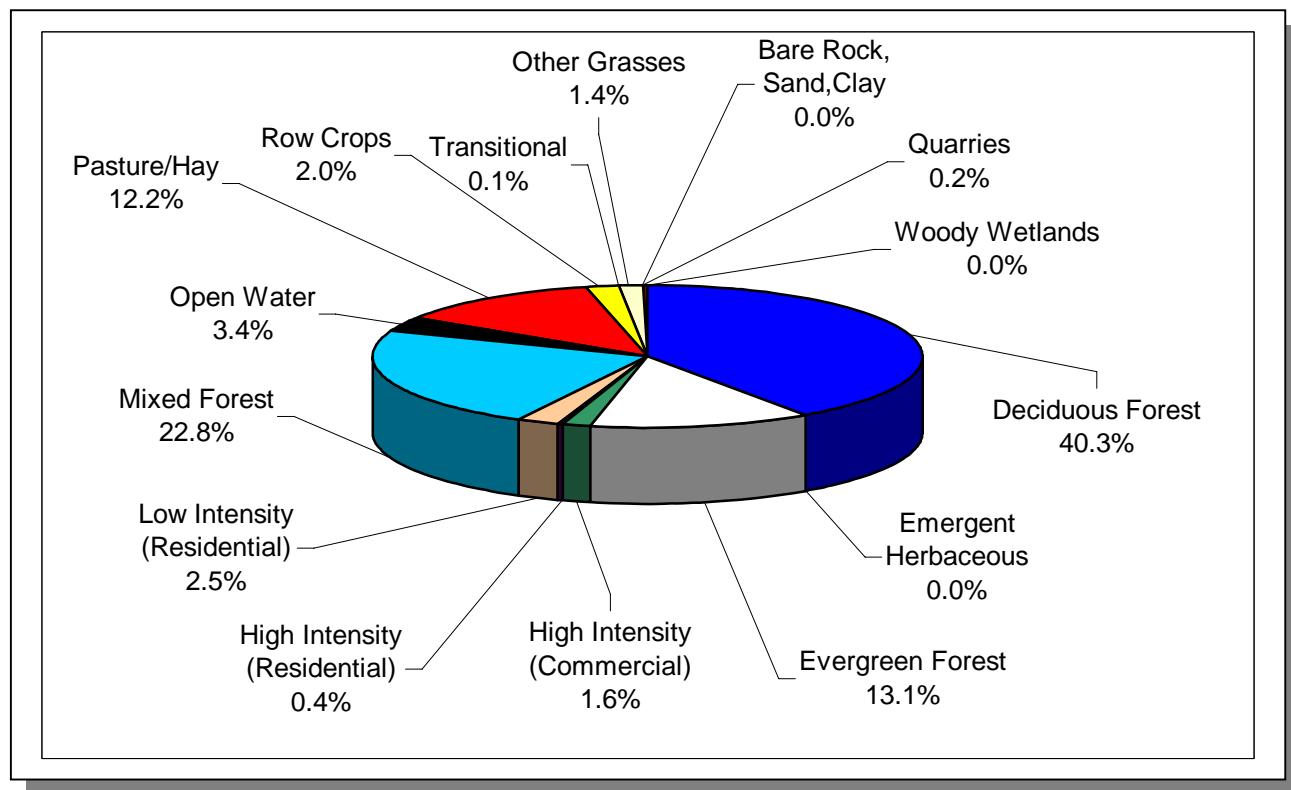


Figure 4-4. Land Use Distribution in Subwatershed 0601020701. More information is provided in Appendix IV.

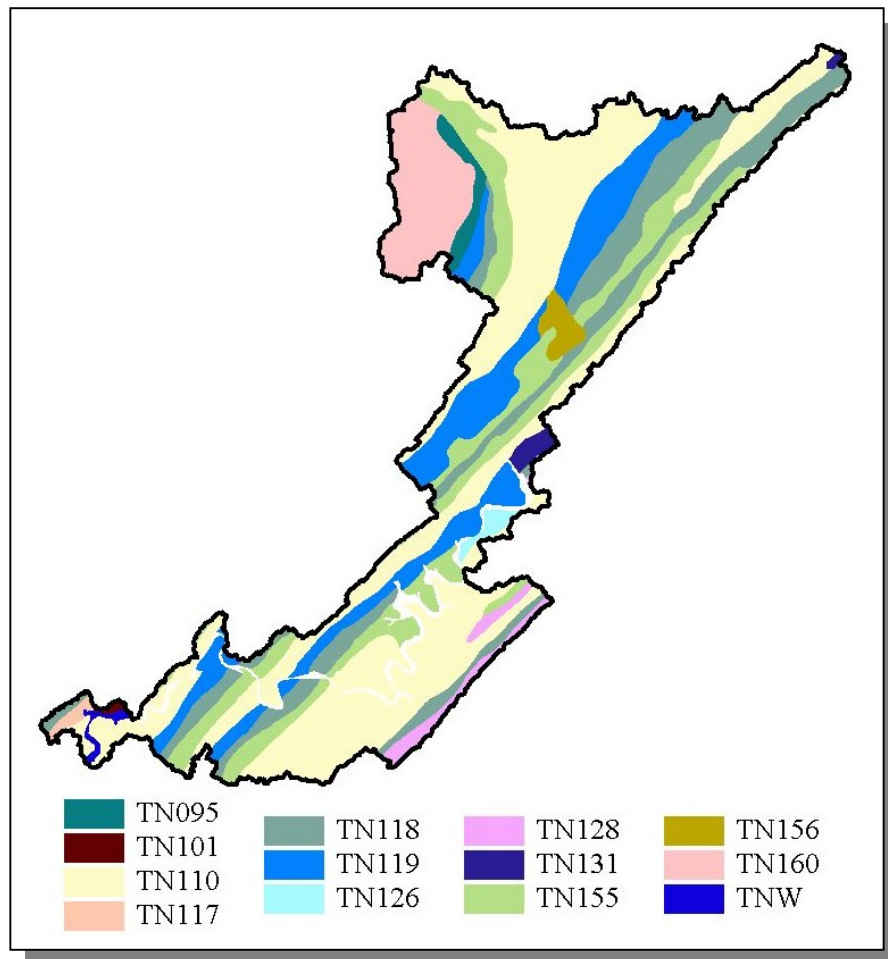


Figure 4-5. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0601020701.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN095	0.00	B	2.35	5.12	Loam	0.31
TN101	0.00	B	1.71	5.39	Loam	0.35
TN110	0.00	B	2.22	4.96	Loam	0.31
TN117	6.00	C	2.06	5.16	Loam	0.37
TN118	0.00	C	6.52	5.12	Loam	0.29
TN119	2.00	C	1.08	5.15	Loam	0.33
TN126	19.00	C	1.30	5.12	Loam	0.33
TN128	0.00	C	1.30	6.53	Clayey Loam	0.26
TN131	0.00	C	1.17	4.95	Silty Loam	0.33
TN155	0.00	C	1.71	5.31	Loam	0.32
TN156	0.00	C	1.41	5.27	Loam	0.33
TN160	0.00	B	2.69	5.36	Loam	0.25

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0601020701. More details are provided in Appendix IV.

County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-1997)
	1990	1997	2000		1990	1997	2000	
Anderson	68,250	71,498	71,330	51.73	35,304	36,984	36,897	4.5
Campbell	35,079	37,878	39,854	1.67	586	632	665	13.5
Knox	335,749	365,900	382,032	4.48	15,029	16,378	17,100	13.8
Loudon	31,255	38,245	39,086	6.87	2,147	2,628	2,685	25.1
Roane	47,227	49,885	51,910	16.71	7,894	8,338	8,676	9.9
Union	13,694	15,956	17,808	5.71	782	912	1,017	30.1
Totals	531,254	579,362	602,020		61,742	65,872	67,040	8.6

Table 4-3. Population Estimates in Subwatershed 0601020701.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clinton	Anderson	8,972	4,006	3,294	700	12
Farragut	Knox	12,804	4,463	3,392	1,064	7
Kingston	Roane	4,552	2,071	1,587	484	0
Lake City	Campbell	2,258	979	930	45	4
Norris	Anderson	1,303	622	505	117	0
Oak Ridge	Roane	27,310	12,694	12,461	212	21
Totals		57,209	24,835	22,169	2,622	44

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0601020701.

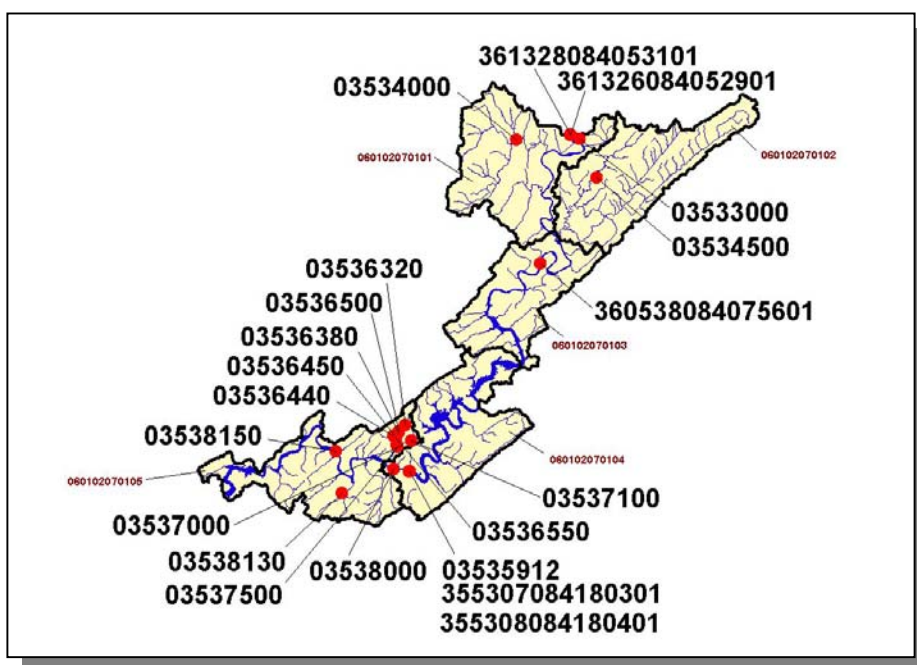


Figure 4-6. Location of Historical Streamflow Data Collection Sites in Subwatershed 0601020701. Subwatershed 060102070101, 060102070102, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information is provided in Appendix IV.

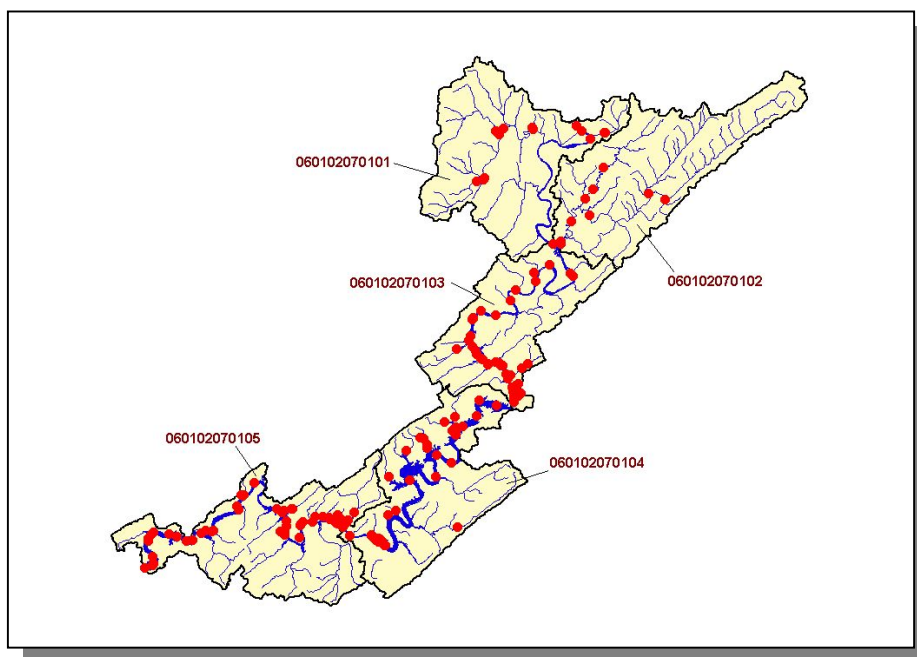


Figure 4-7. Location of STORET Monitoring Sites in Subwatershed 0601020701. Subwatershed 060102070101, 060102070102, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including site names and locations, is provided in Appendix IV.

4.2.A.ii Point Source Contributions.

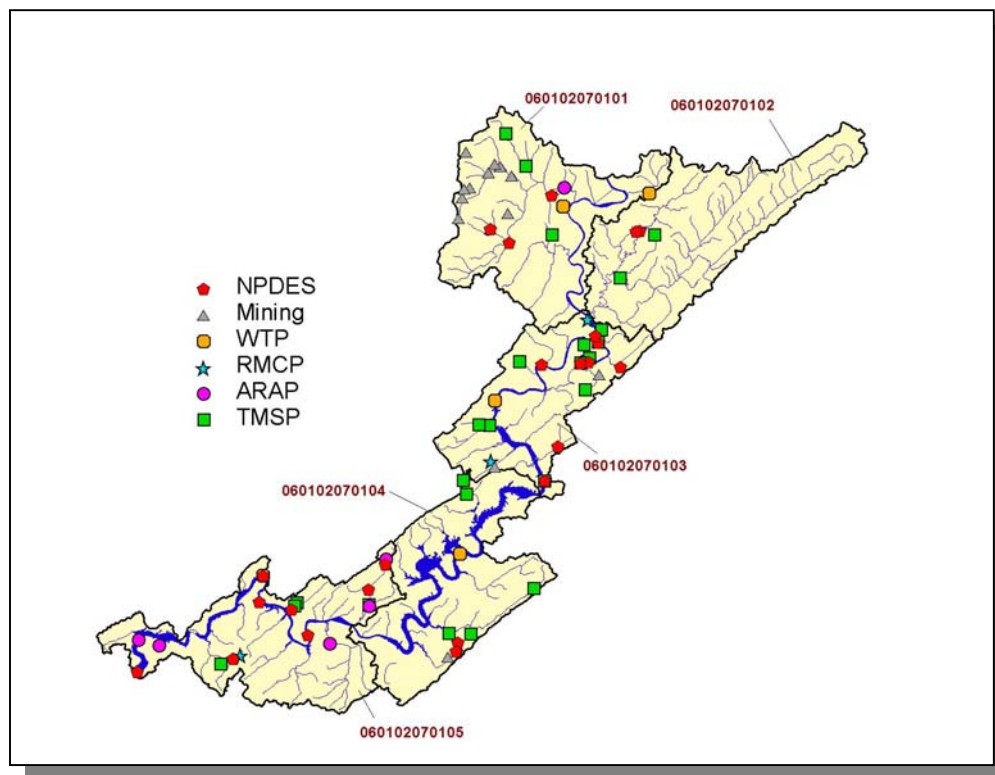


Figure 4-8. Location of Active Point Source Facilities in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

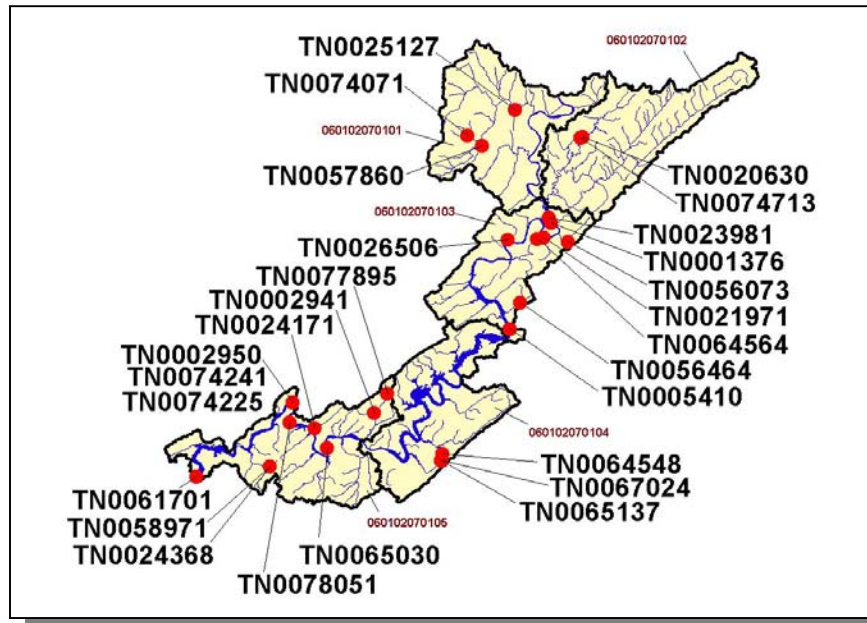


Figure 4-9. Location of NPDES Facilities in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

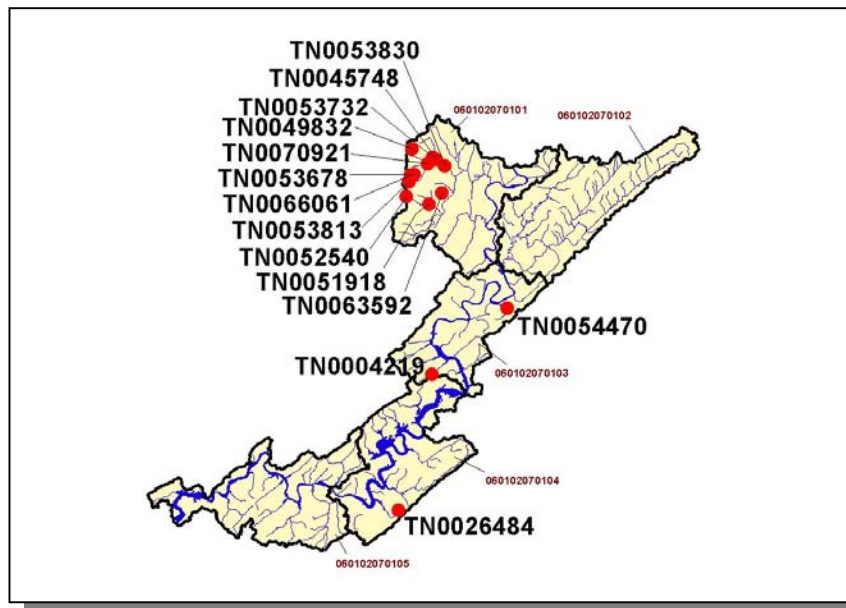


Figure 4-10. Location of Active Mining Facilities in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

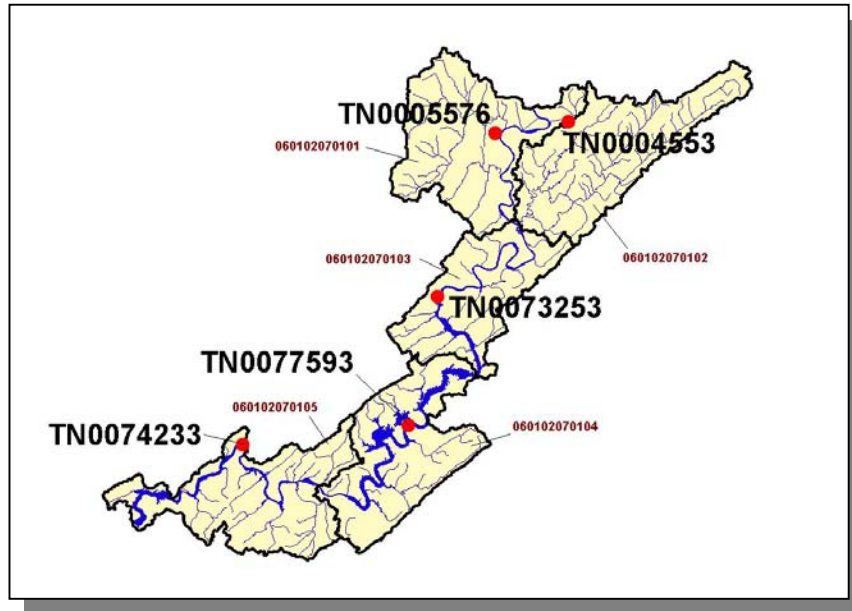


Figure 4-11. Location of Water Treatment Plants in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

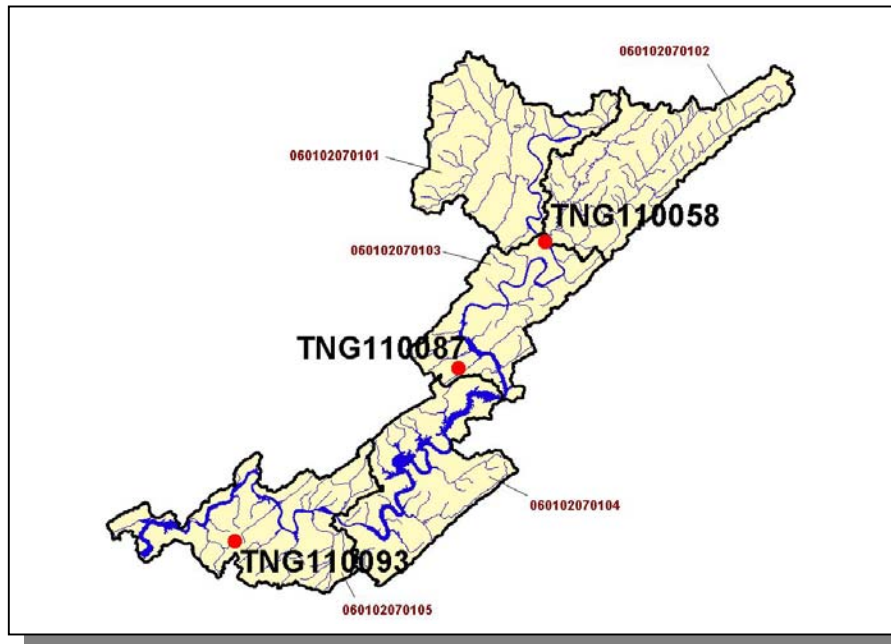


Figure 4-12. Location of Ready Mix Concrete Plants in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

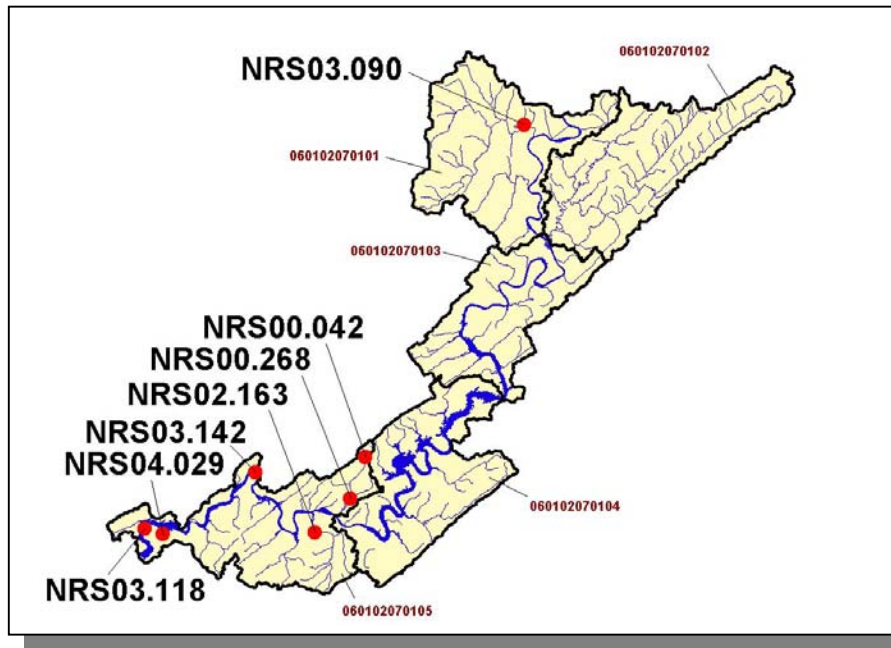


Figure 4-13. Location of ARAP Sites (Individual Permits) in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

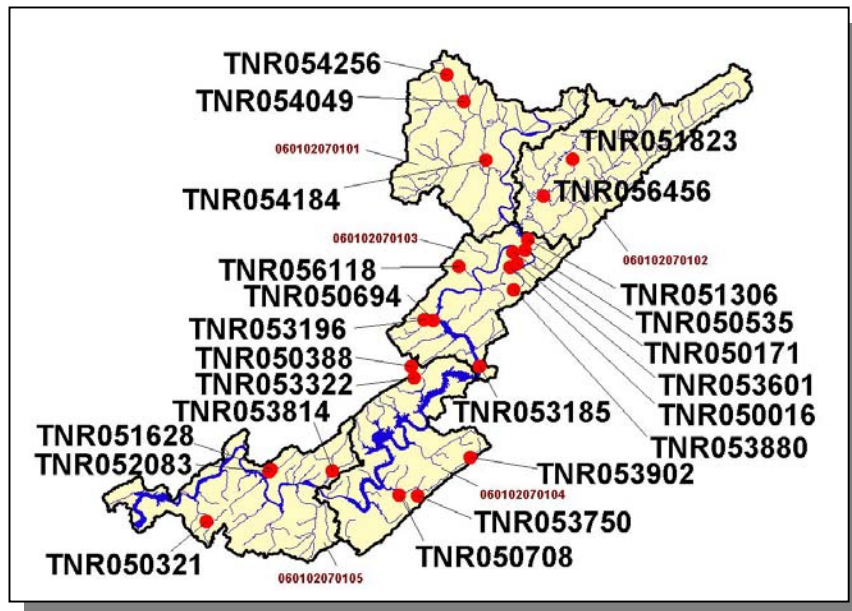


Figure 4-14. Location of TMSP Facilities in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

4.2.A.ii.a. Dischargers to Water Bodies Listed on the 2002 303(d) List

There are five NPDES facilities discharging to water bodies listed on the 2002 303(d) list in Subwatershed 0601020701:

- TN0020630 (Norris STP) discharges to Buffalo Creek @ RM 4.4
- TN0074713 (Intex Enterprises) discharges to Buffalo Creek @ RM 0.3 to Hinds Creek @ RM 5.5
- TN0025127 (Lake City STP) discharges to Coal Creek @ RM 3.3
- TN0065137 (Knoxville Travel Center) discharges to Grable Branch @ RM 0.8
- TN0002941 (USDOE-ORNL) discharges to White Oak Creek, Clinch River, and Melton Branch

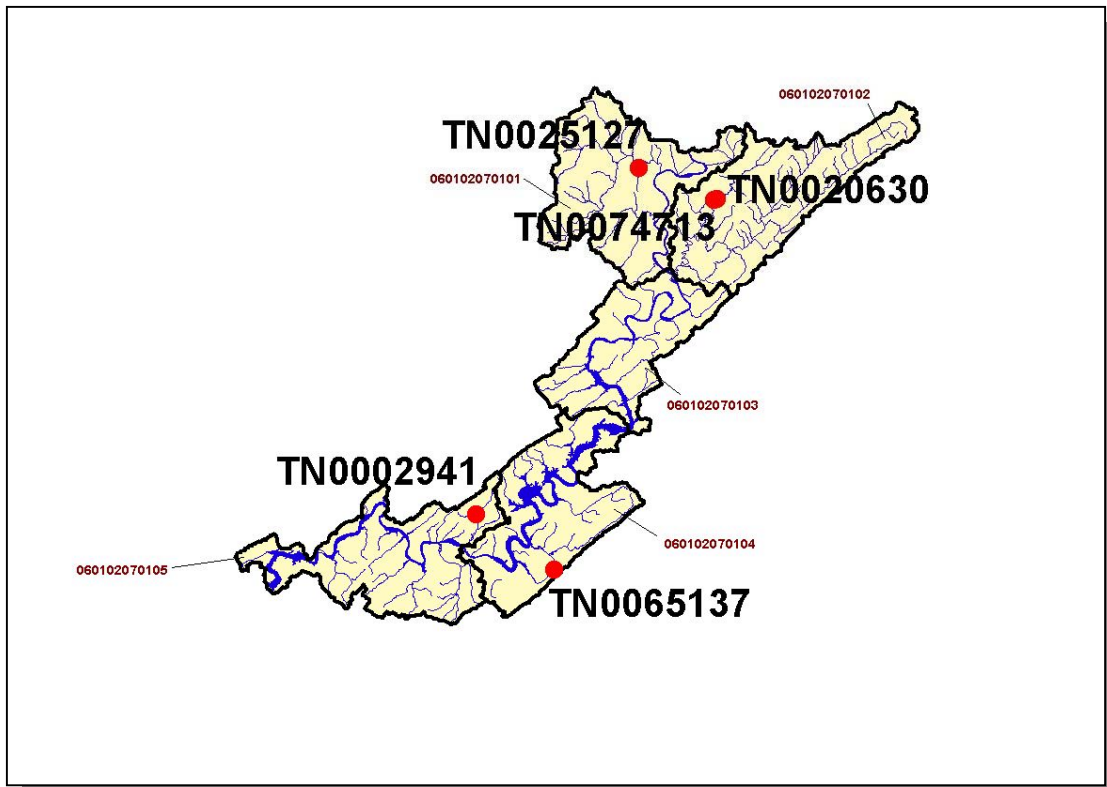


Figure 4-15. Location of NPDES Dischargers to Water Bodies Listed on the 2002 303(d) List in Subwatershed 0601020701. Subwatershed 060102070101, 060102070021, 060102070103, 060102070104, and 060102070105 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0020630	0.33	0.33	0.34	0.30	0.2
TN0074713				0	0.324
TN0025127	0.80	0.82	0.87	0.74	0.95
TN0065137					
TN0002941	2.7	2.8	3.1	2.6	

Table 4-5. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0601020701. Data are in million gallons per day (MGD). Data were obtained from the USGS publication *Flow Duration and Low Flows of Tennessee Streams Through 1992* or from permit files.

PERMIT #	CBOD ₅	BENZENE
TN0065137	X	X

Table 4-6. Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0601020701.

PERMIT #	WET	CBOD ₅	FECAL COLIFORM	E. COLI	NH ₃	TRC	TSS	SETTLEABLE SOLIDS	CN	DO	pH
TN0020630		X	X	X	X	X	X	X		X	X
TN0074713	X	X			X		X		X		X
TN0025127		X	X	X	X	X	X	X		X	X
TN0065137							X				X
TN0002941	X	X			X		X		X		X

Table 4-7. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0601020701. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); TRC, Total Residual Chlorine; TSS, Total Suspended Solids.

PERMIT #	Zn	Ag	Ni	Pb	Cu	Cr	Cd
TN0074713	X	X	X	X	X	X	
TN0002941	X	X	X	X	X	X	X

Table 4-8. Metals Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0601020701.

PERMIT #	OIL and GREASE	TTO
TN0074713		X
TN0065137	X	
TN0002941	X	X

Table 4-9. Organic Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2002 303(d) List in Subwatershed 0601020701. TTO, Total Toxic Organics.

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Chickens Sold	Hogs	Sheep
7,431	15,720	914	37	<5	93	210

Table 4-10. Summary of Livestock Count Estimates in Subwatershed 0601020701.
According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Anderson	124.0	124.0	2.6	6.2
Campbell	250.3	250.2	2.6	10.6
Knox	127.5	127.0	2.2	8.2
Loudon	62.3	62.3	1.1	3.5
Roane	153.1	153.1	1.7	5.1
Union	102.5	102.5	0.1	0.0
Total	819.7	819.1	10.3	33.6

Table 4-11. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 0601020701.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	1.54
Legumes (Pastureland)	0.23
Legumes (Hayland)	1.04
Grass (Hayland)	0.80
Legumes, Grass (Hayland)	2.18
Grass, Forbs, Legumes (Mixed Pasture)	1.30
Forest Land (Not Grazed)	0.00
Forest Land (Grazed)	0.00
Corn (Row Crops)	1.95
Soybeans (Row Crops)	15.54
Tobacco (Row Crops)	2.29
Wheat (Close-Grown Cropland)	3.74
Other Vegetable and Truck Crops	11.67
Non-Agricultural Land Use	0.00
Other Land in Farms	0.23
Farmsteads and Ranch Headquarters	0.99

Table 4-12. Annual Estimated Total Soil Loss in Subwatershed 0601020701.